

<110> Heston, Warren D.W.  
O'Keefe, Denise S.

<120> DNA Encoding the Prostate-Specific Membrane  
Antigen-Like Gene and Uses Thereof

<130> D6230

<140> USSN 09/973,382

<141> 2001-10-09

<150> PCT/US00/09417

<151> 2000-04-09

<160> 38

<210> 1

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<212> DNA

<213> *Homo sapiens*

<220>

<223> cDNA sequence of PSMA-like gene

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SEQ 1

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 35 40 45  
 Arg Ile Tyr Asn Val Ile Gly Thr Leu Arg Gly Ala Val Glu Pro  
 50 55 60  
 Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser Trp Val Phe  
 65 70 75  
 Gly Gly Ile Asp Pro Gln Ser Gly Ala Ala Val Val His Glu Thr  
 80 85 90  
 Val Arg Ser Phe Gly Thr Leu Lys Lys Glu Gly Trp Arg Pro Arg  
 95 100 105  
 Arg Thr Ile Leu Phe Ala Ser Trp Asp Ala Glu Glu Phe Gly Leu  
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 Leu Gly Ser Thr Glu Trp Ala Glu Asp Asn Ser Arg Leu Leu Gln  
 125 130 135

SEQ 2

Glu Arg Gly Val Ala Tyr Ile Asn Ala Asp Ser Ser Ile Glu Gly  
 140 145 150  
 Asn Tyr Thr Leu Arg Val Asp Cys Thr Pro Leu Met Tyr Ser Leu  
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 Glu Gly Lys Ser Leu Tyr Glu Ser Trp Thr Lys Lys Ser Pro Ser  
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 Asn Asp Phe Glu Val Phe Phe Gln Arg Leu Gly Ile Ala Ser Gly  
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 Arg Ala Arg Tyr Thr Lys Asn Trp Glu Thr Asn Lys Phe Ser Gly  
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 245 250 255  
 Lys Phe Tyr Asp Pro Met Phe Lys Tyr His Leu Thr Val Ala Gln  
 260 265 270  
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 Arg Pro Phe Tyr Arg His Val Ile Tyr Ala Pro Ser Ser His Asn  
 380 385 390

SEQ 3

Lys Tyr Ala Gly Glu Ser Phe Pro Gly Ile Tyr Asp Ala Leu Phe  
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Asp Ile Glu Ser Lys Val Asp Pro Ser Lys Ala Trp Gly Asp Val  
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Glu Thr Leu Ser Glu Val Ala  
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<210> 3  
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 <213> *Homo sapiens*

<220>  
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<300>  
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SEQ 4

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 35 40 45  
 Ser Asn Glu Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala  
 50 55 60

SEQ 5

Phe Leu Asp Glu Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr  
 65 70 75  
 Asn Phe Thr Gln Ile Pro His Leu Ala Gly Thr Glu Gln Asn Phe  
 80 85 90  
 Gln Leu Ala Lys Gln Ile Gln Ser Gln Trp Lys Glu Phe Gly Leu  
 95 100 105  
 Asp Ser Val Glu Leu Ala His Tyr Asp Val Leu Leu Ser Tyr Pro  
 110 115 120  
 Asn Lys Thr His Pro Asn Tyr Ile Ser Ile Ile Asn Glu Asp Gly  
 125 130 135  
 Asn Glu Ile Phe Asn Thr Ser Leu Phe Glu Pro Pro Pro Pro Gly  
 140 145 150  
 Tyr Glu Asn Val Ser Asp Ile Val Pro Pro Phe Ser Ala Phe Ser  
 155 160 165  
 Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr Val Asn Tyr Ala  
 170 175 180  
 Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met Lys Ile Asn  
 185 190 195  
 Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val Phe Arg  
 200 205 210  
 Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly Val  
 215 220 225  
 Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys  
 230 235 240  
 Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg  
 245 250 255  
 Gly Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro  
 260 265 270  
 Gly Tyr Pro Ala Asn Glu Tyr Ala Tyr Arg Arg Gly Ile Ala Glu  
 275 280 285  
 Ala Val Gly Leu Pro Ser Ile Pro Val His Pro Ile Gly Tyr Tyr  
 290 295 300  
 Asp Ala Gln Lys Leu Leu Glu Lys Met Gly Gly Ser Ala Pro Pro  
 305 310 315

SEQ 6

Asp Ser Ser Trp Arg Gly Ser Leu Lys Val Pro Tyr Asn Val Gly  
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Pro Gly Phe Thr Gly Asn Phe Ser Thr Gln Lys Val Lys Met His  
335 340 345

Ile His Ser Thr Asn Glu Val Thr Arg Ile Tyr Asn Val Ile Gly  
350 355 360

Thr Leu Arg Gly Ala Val Glu Pro Asp Arg Tyr Val Ile Leu Gly  
365 370 375

Gly His Arg Asp Ser Trp Val Phe Gly Gly Ile Asp Pro Gln Ser  
380 385 390

Gly Ala Ala Val Val His Glu Ile Val Arg Ser Phe Gly Thr Leu  
395 400 405

Lys Lys Glu Gly Trp Arg Pro Arg Arg Thr Ile Leu Phe Ala Ser  
410 415 420

Trp Asp Ala Glu Glu Phe Gly Leu Leu Gly Ser Thr Glu Trp Ala  
425 430 435

Glu Glu Asn Ser Arg Leu Leu Gln Glu Arg Gly Val Ala Tyr Ile  
440 445 450

Asn Ala Asp Ser Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val Asp  
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470 475 480

Leu Lys Ser Pro Asp Glu Gly Phe Glu Gly Lys Ser Leu Tyr Glu  
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Ser Trp Thr Lys Lys Ser Pro Ser Pro Glu Phe Ser Gly Met Pro  
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Arg Ile Ser Lys Leu Gly Ser Gly Asn Asp Phe Glu Val Phe Phe  
515 520 525

Gln Arg Leu Gly Ile Ala Ser Gly Arg Ala Arg Tyr Thr Lys Asn  
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545 550 555

Tyr Glu Thr Tyr Glu Leu Val Glu Lys Phe Tyr Asp Pro Met Phe  
560 565 570

SEQ 7

Lys Tyr His Leu Thr Val Ala Gln Val Arg Gly Gly Met Val Phe  
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 590 595 600  
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 605 610 615  
 Met Lys His Pro Gln Glu Met Lys Thr Tyr Ser Val Ser Phe Asp  
 620 625 630  
 Ser Leu Phe Ser Ala Val Lys Asn Phe Thr Glu Ile Ala Ser Lys  
 635 640 645  
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 650 655 660  
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 665 670 675  
 Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg His Val  
 680 685 690  
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 695 700 705  
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 chromosome 11q

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28

SEQ 8



*Ins B1*

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<220>  
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amplifying the first intron of the PSMA-  
like gene on chromosome 11q

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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 2)

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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 2)

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SEQ 9

*Ins B1*

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<220>

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<223> antisense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 3)

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cataggaaag tagttgacac gg 22

<210> 11

<211> 22

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<223> sense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 4)

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SEQ 10

*Ins  
B1*

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regions of the PSMA-like gene (exon 4)

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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exons 5-6)

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<210> 14  
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clone used to amplify the corresponding  
regions of the PSMA-like gene (exons 5-6)

<400> 14  
gacatgctta gtccattgta cc 22

<210> 15  
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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 7)

SEQ 11

(

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 clone used to amplify the corresponding  
 regions of the PSMA-like gene (exons 8-9)

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<210> 18  
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SEQ 12

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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 10)

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<210> 20  
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<220>  
<221> primer\_bind  
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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 10)

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<210> 21  
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<212> DNA  
<213> Artificial sequence

<220>  
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<223> sense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 11)

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<210> 22  
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SEQ 13

*Ins B1*

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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 11)

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<210> 23  
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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 12)

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<210> 24  
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<221> primer\_bind  
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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 12).

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<210> 25  
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<220>  
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<223> sense oligonucleotide primer based upon

SEQ 14

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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 13)

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22

<210> 26  
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<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 13)

<400> 26  
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22

<210> 27  
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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 14)

<400> 27  
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22

<210> 28  
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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 14)

SEQ 15

*Ins  
B1*

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<210> 29  
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<220>  
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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 15)

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agaatgggggt ttagtttaat gg 22

<210> 30  
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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 15)

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<210> 31  
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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exons 16-17)

<400> 31  
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SEQ 16



( (

<210> 32  
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 regions of the PSMA-like gene (exons 16-17)

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 <223> sense oligonucleotide primer based upon  
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 regions of the PSMA-like gene (exon 18)

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SEQ 17

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regions of the PSMA-like gene (exon 19)

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<210> 36  
<211> 22  
<212> DNA  
<213> Artificial sequence

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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 19)

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<210> 37  
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<212> DNA  
<213> Artificial sequence

<220>  
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PCR on cDNAs from various tissues

<400> 37  
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<210> 38  
<211> 24  
<212> DNA  
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<220>  
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performing PCR on cDNAs from various  
tissues

SEQ 18

Ins  
Bl

<400> 38  
actgtgatac agtggatagc cgct

24

SEQ 19

<220>  
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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 19)

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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 19)

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PCR on cDNAs from various tissues

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tissues

SEQ 18

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24

SEQ 19